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September 2001

Ukraine

Ukraine is important to world energy markets because it is a critical transit center for exports of Russian oil and natural gas to Eastern and Western Europe, as well as a major energy producer and consumer in its own right.

Information contained in this report is the best available as of September 2001 and is subject to change.



GENERAL BACKGROUND

Ten years after declaring independence from the Soviet Union, Ukraine remains mired in the transition from a centrally-planned economic system to a market economy. However, after posting eight consecutive years of negative real gross domestic product (GDP) growth rates, Ukraine appears to be turning the

corner. Boosted by increased industrial production and structural reforms, Ukraine's GDP in 2000 grew 5.8%. After 9% growth from January to May of this year, analysts are predicting 6.2% overall GDP growth for 2001. Inflation, while still high, has slowed down considerably, and there has been a marked drop in unemployment.

Despite this progress, Ukraine remains burdened by the substantial wage arrears owed to workers, as well as crushing foreign debt that continues to grow. A confusing web of tax requirements and excessive state interference in the private sector has contributed to a poor investment climate, and increased economic growth has been blunted by political turbulence in the past year involving President Leonid Kuchma, who was re-elected in 1999 for a second term.

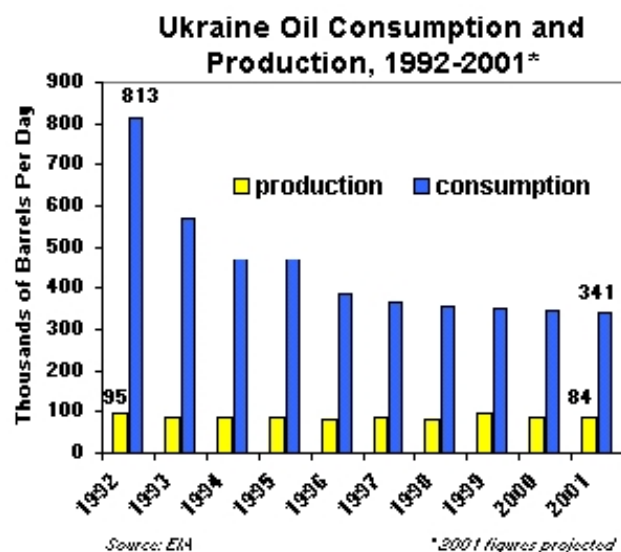
In addition, reformist Prime Minister Viktor Yushchenko was ousted in April 2001 after losing a vote of no-confidence that was put forward by a coalition that included the Communist Party, the largest party in the Verkhovna Rada (the Ukrainian Parliament). In May 2001, Yushchenko was replaced as Prime Minister by Anatoly Kinakh, who stated that his top priority was pressing ahead with tax and land reforms that have become bogged down in the parliamentary process.

One sector still in dire need of reform in Ukraine is the energy sector. Ukraine's energy sector is plagued by a lack of domestic energy sources, increasing foreign debt, outdated and inefficient equipment, a lack of funds, fuel shortages, barter deals, and non-payment by consumers. Under Yushchenko and his Deputy Prime Minister for Energy Issues, Juliya Tymoshenko, Ukraine pressed ahead with energy reforms, increasing cash collection rates and promoting [privatization efforts](#). However, President Kuchma removed Tymoshenko from her position in January of 2001 after prosecutors launched a case against her regarding charges of past corruption.

With the Yushchenko government's dismissal and parliamentary elections scheduled for March 2002, momentum for energy sector reforms has slowed. Ukraine still owes huge sums to [Russia](#) for natural gas and electricity, and Ukraine's nonpayment of debts to Russia has strained relations between the countries, prompting Russia at various times to disconnect Ukraine from its electricity grid, cut off gas and oil supplies, and even ask Ukraine to pay its energy debts by handing over state-owned enterprises in lieu of cash.

OIL

Ukraine has 395 million barrels of proven oil reserves, the majority of which are located in the Dnieper-Donets basin in the eastern part of the country. Although the pace of exploration has picked up, particularly in Ukraine's sector of the Sea of Azov, oil production has tapered off since independence. Since 1992, when Ukraine produced 95,000 barrels per day (bbl/d), production has been on the decline, dipping to 84,000 bbl/d in 2000. Naftohaz Ukrainy, the country's majority state-owned, umbrella oil and gas organization, is predicting oil production in 2001 to stay flat at 84,000 bbl/d.



At this level of production, Ukraine's oil production volumes satisfy only about 25% of the country's domestic needs, making Ukraine highly dependent on foreign oil supplies. Although Ukraine's oil consumption has dried up dramatically since independence--dropping 57% from 813,000 bbl/d in 1992 to 346,000 bbl/d in 2000--the country's consumption still far outstrips its production capacity. Ukraine imports the majority of its oil from Russia, with lesser amounts coming from [Kazakhstan](#).

Oil Transit

With a highly developed oil pipeline system, Ukraine plays an important role as a [transit country for Russian oil exports](#) to Europe. The southern branch of the 1.2-million-bbl/d Druzhba pipeline from Russia transits Ukraine en route to Slovakia, Hungary, and on to western Europe.

In addition, due to its geographic location and its oil pipeline system, Ukraine has an excellent opportunity to play a major role in bringing increased oil exports from [Azerbaijan](#) and Kazakhstan to European oil markets. Rather than seeking to import [Caspian Sea region](#) oil for domestic consumption, Ukraine is hoping to reap tariffs for Caspian oil transiting its territory as it heads westwards.

The chief components of Ukraine's strategy are the \$750-million Pivdenny oil terminal and the 500,000-bbl/d [Odesa-Brody pipeline](#). Ukraine is hoping to entice Caspian oil exporters shipping oil via the Black Sea to [bypass the crowded Bosphorus Straits](#), already a major [chokepoint](#) for tankers, and instead send their oil to European markets via Ukraine. However, Ukraine has not yet found any oil companies to fill the pipeline, and the country's attempts to make itself more attractive to investors--by stepping up [oil sector privatization](#) efforts or by proposing that an international consortium to manage the pipeline--have seen only limited results thus far.

Refining

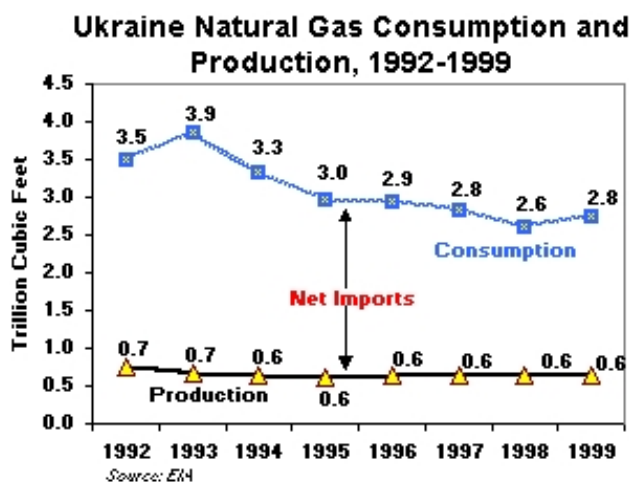
Ukraine has six refineries, with a combined crude oil refining capacity of just under 1.1 million bbl/d. However, with domestic demand at just over 30% of the country's refining capacity, Ukraine's refineries are operating significantly below capacity.

Moreover, Ukraine's refineries have been unable to attract even the crude oil supplies they need to supply the country's petroleum product demand. Crude supplies in 2000 to the 361,000-bbl/d Kremenchuk refinery, the country's largest, dropped 67% from 1999 to just 48,000 bbl/d. Similarly, Ukraine's State Oil & Gas Committee reported that crude shipments to the Odesa refinery in 2000 declined by over 60%, to 22,500 bbl/d. From January to October 2000, Ukraine's Ministry of Fuel and Energy estimated that Ukrainian oil refineries were using only 15% of their capacities as Russian oil companies diverted oil supplies elsewhere and/or exported already refined oil products to Ukraine.

However, Ukraine's recent success in [privatizing its refineries](#) has begun to turn this trend around. By offering foreign oil companies a stake in Ukraine's refineries, Ukraine has been able to secure additional oil supplies to meet domestic demand, as well as to attract funds for necessary renovation work and to boost utilization rates at its refineries. Although still operating far below its 320,000-bbl/d potential, throughput has increased at the Lisichansk (LiNOS) refinery since Russian oil major Tyumen Oil (TNK) purchased 67% of the refinery in July 2000. In 2000, some 48,000 bbl/d of crude was processed at Lisichansk against just 10,600 bbl/d in 1999. Likewise, with LUKoil's purchase of a controlling share of the Odesa refinery, the Russian oil company agreed to pay \$39.6 million of the refinery's debts and promised to supply 48,000 bbl/d of crude to the refinery annually until 2004.

NATURAL GAS

Although Ukraine has sizeable natural gas reserves of 39.6 trillion cubic feet (Tcf), the country's consumption of natural gas far exceeds the country's natural gas production. In 1999, Ukraine consumed 2.8 Tcf of natural gas while producing only 0.6 Tcf, leaving the country dependent on imports for nearly 80% of its consumption needs. Preliminary figures for 2000 show a similar discrepancy between the country's natural gas production and consumption.



According to Chornomornaftohaz, a division of Naftohaz Ukrainy, the country's state-owned gas company, three new gas deposits have been found on the southern Sea of Azov shelf in the last two years. As many as 13 gas and condensate and dry gas deposits with a combined 2.6 Tcf of predicted reserves are known on the shelf, but Ukraine's biggest gas deposits are already over 90% exhausted and many of the country's recently developed gas deposits have been quite small.

With natural gas output predicted to stay relatively flat at 0.6 Tcf in 2001, Ukraine will continue to

rely heavily on imports to fulfill domestic demand. Traditionally, Russia has been Ukraine's major source of gas supplies, with Ukraine receiving up to 1.1 Tcf per year of Russian natural gas as payment for [transiting Russian gas](#) to European markets. Because of Ukraine's deficiency of indigenous natural gas, Ukraine has been forced to buy additional gas from Russia beyond what it receives as compensation for transit.

Gas Debts to Russia

Ukraine has run up a substantial debt for natural gas supplies to Russia. As a result of the country's overconsumption of Russian natural gas in 1999, Russia had threatened to deny Ukraine any gas as compensation for the transit of Russian gas across its territory in 2000. Although Russia relented and provided Ukraine with natural gas supplies in exchange for transit rights, Russia accused Ukraine of unauthorized offtakes of its natural gas destined for European customers, heightening tensions between the two countries and prompting Russia to pursue plans to build a "[Ukraine bypass](#)" [gas pipeline](#) to Europe.

With Ukraine's continued illegal siphoning of Russian gas in early 2000, Russia clamped down, demanding Ukraine pay its nearly \$2 billion gas debt and halt unauthorized Russian gas consumption. In the fall of 2000, in exchange for Ukraine's gas debt, [Russia offered to swap Ukraine's gas debt for equity in Ukraine's transit pipelines](#). However, Ukraine balked at the idea; instead, Ukraine has been exploring the idea of setting up an international consortium (which would include Russia's Gazprom) to manage the pipelines.

In December 2000, Russia and Ukraine reached an agreement on gas transit for 2001, as well as an end to Ukraine's illegal offtakes, but allegations of Ukrainian natural gas siphoning surfaced again in the spring of 2001. In August 2001, Russia and Ukraine finally reached agreement on the amount of Ukraine's gas debt--\$1.34 billion--and the terms of repayment. In addition, Ukrainian power generators owe Russian gas trader Itera approximately \$50 million. In February 2001, Itera began cutting off natural gas supplies to Ukrainian generators in order to force payment.

New Import Partners

In an effort to reduce its traditional dependence on Russian gas, Ukraine has signed several gas import deals with [Turkmenistan](#). In October 2000, Turkmenistan agreed to sell Ukraine 177 Bcf of gas for the remainder of 2000, plus an additional 1.06 Tcf of gas for 2001. With the 1.06 Tcf of gas that Ukraine is receiving from Russia in exchange for gas transit to Europe and the 0.6 Tcf of domestic production, Ukraine is meeting its gas consumption needs in 2001 without paying for Russian gas.

In May 2001, Ukraine and Turkmenistan signed a 5-year natural gas supply deal designed to wean Ukraine off Russian gas. On May 14, 2001, Ukraine President Leonid Kuchma and Turkmen President Saparmurad Niyazov initialed an agreement whereby Turkmenistan will supply Ukraine with a total of 8.83 Tcf of gas between 2002 and 2006, providing Ukraine with nearly 60% of its projected natural gas needs. In 2002, Turkmenistan will sell Ukraine 1.4 Tcf of gas, with gas supplies increasing to 1.77 Tcf in 2003 and remaining deliveries to be agreed later. Ukraine will pay for the gas 50% in cash and 50% through participation in construction and industrial projects in Turkmenistan.

Since Ukraine still owes Turkmenistan \$250 million for previous gas supplies, the May 2001 gas deal is contingent on Ukraine remaining current in its gas payments to Turkmenistan. In addition, since the gas will be routed via Russia, Ukraine also will have to make timely payments to Russia for transit. Itera, which will supply the Turkmen gas, has threatened to stop gas deliveries to Ukraine if the problem of Ukraine's unpaid gas debts to Russia is not solved.

With this in mind, Ukraine also is looking to import up to 353 Bcf from [Iran](#) through [Armenia](#). With construction of a gas pipeline from Iran to Armenia under way, Ukraine believes that a Iran-Armenia-[Georgia](#)-Crimea pipeline is possible, linking from Georgia across the Black Sea to Ukraine's Crimean

port of Feodosia. However, the substantial projected cost of such a pipeline has inhibited the implementation of this plan.

COAL

Ukraine has 37.9 billion short tons in proven coal reserves, accounting for over 60% of the former Soviet Union's total coal reserves. Most of Ukraine's coal is mined in the Donetsk/Donbas basin in the eastern region of the country. Between 1992 and 1998, Ukraine's coal production dropped 43%, from 146.8 million short tons (Mmst) to 83.3 Mmst, before rebounding to 90.8 Mmst in 1999. The decline was caused in large part by the collapse of domestic demand and the closing of heavy industry as Ukraine's economy contracted during the 1990s.

Ukraine exported approximately 2.5 Mmst of coal in 2000, some 9% higher than in 1999. Of this amount, 1.4 Mmst went to Bulgaria, with other sales to [Poland](#), [Belarus](#), and Slovakia. However, even as Ukraine's coal production remained steady in 2000, demand for coal in Ukraine continued to outpace the country's production. Coal imports to Ukraine increased by 16.5% in 2000 compared to 1999, when the country's net coal imports totaled 7 Mmst.

Ukraine has nearly 200 coal mines, which account for around 400,000 jobs and remain heavily subsidized by the government. The country's coal industry continues to be plagued by labor strikes, hazardous working conditions, inefficiency and low productivity, corruption, consumer nonpayments, unpaid wages and huge debts, and outmoded equipment. Ukraine's coal industry has the world's highest death rate, mostly attributed to obsolete equipment and low safety standards: on August 19, 2001, an explosion at the Zasyadko mine in Donetsk killed 54 miners, the latest in a series of deadly accidents.

Meanwhile, the industry's debt level has risen to more than \$2 billion--over 50% greater than the value of annual production and twice as much as its receivable debts. Attempts to reform the sector began in 1996 but had little effect as the then-Ministry for Coal concentrated on barter deals, investments and subsidies while lobbying for a ban on coal imports. Although some reforms have begun to take root and wage arrears are beginning to be paid down, [coal sector privatization has stalled](#), and a \$300-million World Bank structural adjustment loan that was designed to close down more than 80 loss-making pits between 1997 and 2000 failed to close even half of those mines. In March 2001, Deputy Prime Minister Oleh Dubyna said the main thrust of Ukraine's coal reform program will be a transparent finance and credit scheme for payments.

ELECTRICITY

Ukraine has 54.8 gigawatts (GW) of electric installed capacity. The country has four major thermal-fired power plants with 17 power generators, as well as four nuclear power plants with 13 reactors. Thermal power plants account for nearly 50% of the power produced in Ukraine, with nuclear power generating another 40%, and hydroelectric accounting for approximately 10%. In 1999, Ukraine produced 157.8 billion kilowatt-hours (Bkwh) of electricity and consumed 146.7 Bkwh.

Ukraine theoretically has enough power plants to produce twice its electricity needs, yet it is barely a net exporter of electricity. Due to the inefficient and antiquated transmission and distribution network that Ukraine inherited from the Soviet era, a significant amount of power generated is wasted via line losses. In November 2000, this situation was exacerbated by an early winter ice storm that knocked out power lines across a huge swath of western Ukraine and left millions without electricity for several weeks and some without power for months.

The power sector also is plagued by shortages of fuel for power generators--since natural gas accounts for over 40% of the primary fuel consumption of Ukrainian thermal power plants, the country's reliance on Russian natural gas also has affected its electricity sector. In mid-January 2001, Itera cut off gas supplies to four thermal electric power generators, seeking payment of a \$64-million gas debt and forcing the generators to operate well below capacity.

Non-payment by consumers is another obstacle hindering the further development of Ukraine's power sector. Although in theory Ukraine's 27 regional energy distributors--called *oblenergos*--can cut off non-paying customers to reduce losses and enforce payment discipline, in practice this often cannot be done without government permission, which is not always forthcoming. With Tymoshenko's drive to increase cash collection by cutting off defaulters, the percentage of power bills paid in cash rose from below 10% in 1999 to 69% by September 2000. Overall, cash collection for electricity bills averaged 50% in 2000. The current rate of cash collection is about 65%.

In an effort to relieve itself of the heavy debt burden of the power sector, Ukraine actively is trying to [privatize its regional energy distribution companies](#). The country partially privatized the first seven oblenergos in 1998, then sold stakes in another six oblenergos in April 2001. Plans to sell controlling shares in 12 additional oblenergos, as well as the country's thermal power-generating units, have been put on hold until 2002, pending a presidential review of the recent privatizations and additional reforms to the sector.

In February 2001, Russia and Ukraine struck a deal to reconnect their energy grids, providing Ukraine with a more stable electric frequency and allowing Russia to export its electricity to other countries via Ukraine. Although the grids were supposed to be reconnected on March 1, 2001, the grids were not actually linked until August 2001. In recent years, Russia's power monopoly UES periodically has stopped supplying electricity to Ukraine because Ukraine was delinquent in payment. Currently, Ukraine's electricity debt stands at approximately \$60 million.

Nuclear

Currently, Ukraine is operating four nuclear plants with 13 reactors. These power plants have a total capacity of 11.8 gigawatts, which accounts for approximately 22% of the country's total power-generating capacity. Ukraine's nuclear power plants produce 40% of the country's power output, despite frequent malfunctions plus lengthy repairs and maintenance.

On December 15, 2000, Ukraine permanently shut down the 925-MW, Unit 3 at the Chornobyl power plant, disabling the last remaining working reactor at the ill-fated power plant. To make up for the power shortfall from Chornobyl's closure--approximately 5% of the country's total--Ukraine has resumed construction of two 1-GW reactors at the Khmelnytsky and Rivne power plants. Construction of Khmelnytsky-2 and Rivne-4 was begun under the Soviet Union, and both were more than 80% finished when Ukraine received its independence and ran out of money to complete them. Ukraine is hoping to finish construction of both reactors with the help of financing from multilateral development banks.

ENVIRONMENT

The 1986 Chornobyl nuclear meltdown exposed the Soviet Union's negligent environmental record and triggered alarm across the globe. The world's worst nuclear accident created disastrous consequences for the [environment](#), both in Ukraine and in neighboring countries. As a result, Soviet policies that encouraged industrial development at the expense of the environment came under harsh international criticism, and Chornobyl became a rallying cry for environmentalists around the world.

While Chornobyl remains the lasting symbol of environmental degradation in Ukraine, today [air pollution](#) in the major cities is a major problem. Yet, despite increased vehicle traffic, [energy use](#) is significantly lower than just five years ago. Although policies encouraging energy conservation and energy efficiency can take some of the credit, Ukraine's economic woes account for much of the reduction: as the economy has contracted, industrial production and consumer demand have dropped as well, resulting in lower [carbon emissions](#).

Indeed, in terms of energy consumption per dollar, Ukraine suffers from one of the highest levels of [energy intensity](#) in the world. The country's heavy dependence on coal makes it correspondingly high in [carbon intensity](#), and the continued reliance on [nuclear](#) power--as well as a lack of financial

resources or economic incentives--has stifled the country's use of renewable energies. In order to protect its environment better in the [21st century](#), Ukraine will need to shift away from fossil fuels and break the link of economic output from environmental pollution.

COUNTRY OVERVIEW

President: Leonid Kuchma (since July 19, 1994)

Prime Minister: Anatoliy Kinakh (since May 2001)

Independence: December 1, 1991 (from Soviet Union); National holiday: Independence Day, August 24, 1991

Population (7/01E): 49.1 million

Location: Eastern Europe, bordering the Black Sea between Poland and Russia

Size: 233,090 square miles, slightly smaller than Texas

Major Cities: Kiev (capital), Kharkiv, Donetsk, Dnipropetrovsk, Odesa, Lviv

Languages: Ukrainian (official), Russian, Romanian, Polish, Hungarian

Ethnic Groups: Ukrainian 73%, Russian 22%, Jewish 1%, other 4%

Religions: Ukrainian Orthodox - Moscow Patriarchate, Ukrainian Orthodox - Kiev Patriarchate, Ukrainian Autocephalous Orthodox, Ukrainian Catholic (Uniate), Protestant, Jewish

ECONOMIC OVERVIEW

Minister of Economy: Oleksandr Shlapak

Minister of Finance: Ihor Mityukov

Currency: Hryvnia

Market Exchange Rate (9/6/01): US \$1=5.34 hryvnia

Nominal Gross Domestic Product (GDP) (2000E): \$31.8 billion; **(2001E):** \$36.5 billion

Real GDP Growth Rate (2000E): 5.8%; **(2001E):** 6.2%

Inflation Rate (Change in Consumer Prices, Dec. 1999-Dec. 2000E): 25.8%; **(2001E):** 13.2%

Official Unemployment Rate (2000E): 5.3%; **(2001E):** 5.5%

Current Account Balance (2000E): \$1.48 billion; **(2001E):** \$1.07 billion

Major Trading Partners: Russia, EU, China, U.S., Turkey

Merchandise Exports (2000E): \$15.7 billion; **(2001E):** \$21.7 billion

Merchandise Imports (2000E): \$14.9 billion; **(2001E):** \$23.1 billion

Merchandise Trade Balance (2000E): \$780 million; **(2001E):** -\$1.4 billion

Major Exports: ferrous and nonferrous metals, fuel and petroleum products, machinery and transport equipment, food products

Major Imports: energy, machinery and parts, transportation equipment, chemicals

External Debt (12/00E): \$10.4 billion

ENERGY OVERVIEW

First Deputy Prime Minister (for energy issues): Oleh Dubyna

Minister of Fuel & Energy: Stanislav Stashevsky

Proven Oil Reserves (1/1/01E): 395 million barrels

Oil Production (2000E): 84,000 barrels per day (bbl/d), 74,000 bbl/d of which was crude

Oil Consumption (2000E): 346,000 bbl/d

Net Oil Imports (2000E): 262,000 bbl/d

Crude Refining Capacity (1/1/01E): 1.15 million bbl/d

Natural Gas Reserves (1/1/01E): 39.6 trillion cubic feet (Tcf)

Natural Gas Production (1999E): 0.63 Tcf

Natural Gas Consumption (1999E): 2.75 Tcf

Net Natural Gas Imports (1999E): 2.12 Tcf

Coal Reserves (1/1/01E): 37.9 billion short tons

Coal Production (1999E): 90.8 million short tons (Mmst)

Coal Consumption (1999E): 97.8 Mmst

Electricity Generation Capacity (1999E): 54.8 gigawatts, GW

Electricity Production (1999E): 157.8 billion kilowatt-hours (Bkwh)

Electricity Consumption (1999E): 146.7 Bkwh

ENVIRONMENTAL OVERVIEW

Minister of Ecology and Natural Resources: Serhiy Kurykin

Total Energy Consumption (1999E): 6.4 quadrillion Btu* (1.7% of world total energy consumption)

Energy-Related Carbon Emissions (1999E): 104.3 million metric tons of carbon (1.7% of world total carbon emissions)

Per Capita Energy Consumption (1999E): 127.0 million Btu (vs. U.S. value of 355.8 million Btu)

Per Capita Carbon Emissions (1999E): 2.0 metric tons of carbon (vs. U.S. value of 5.5 metric tons of carbon)

Energy Intensity (1999E): 101,315 Btu/\$1990 (vs U.S. value of 12,638 Btu/\$1990)**

Carbon Intensity (1999E): 1.6 metric tons of carbon/thousand \$1990 (vs U.S. value of 0.19 metric tons/thousand \$1990)**

Sectoral Share of Energy Consumption (1998E): Industrial (61.6%), Residential (15.6%), Transportation (14.1%), Commercial (8.6%)

Sectoral Share of Carbon Emissions (1998E): Industrial (64.6%), Residential (16.2%), Transportation (11.8%), Commercial (7.4%)

Fuel Share of Energy Consumption (1999E): Natural Gas (44.3%), Coal (30.0%), Oil (11.8%)

Fuel Share of Carbon Emissions (1999E): Coal (46.8%), Natural Gas (39.4%), Oil (13.9%)

Renewable Energy Consumption (1998E): 175 trillion Btu* (36% increase from 1997)

Number of People per Motor Vehicle (1998): 10.6 (vs. U.S. value of 1.3)

Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified May 13th, 1997). Signatory to the Kyoto Protocol (signed March 15th, 1999, not yet ratified)

Major Environmental Issues: Inadequate supplies of potable water; air and water pollution; deforestation; radiation contamination in the northeast from 1986 accident at Chornobyl Nuclear Power Plant.

Major International Environmental Agreements: A party to Conventions on Air Pollution, Air Pollution-Nitrogen Oxides, Air Pollution-Sulphur 85, Antarctic Treaty, Biodiversity, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Wetlands. Has signed, but not ratified, Air Pollution-Persistent Organic Pollutants, Air Pollution-Sulphur 94, Air Pollution-Volatile Organic Compounds, Antarctic-Environmental Protocol.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar and wind electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

**GDP based on EIA International Energy Annual 1999

ENERGY INDUSTRY

Organization: Naftohaz Ukrainy (umbrella organization for all state-owned oil and gas enterprises, including Ukrnafta, the state oil and gas production company); Mintopenergo (government agency that oversees all of Ukraine's fossil-fuel-fired power plants, as well as its transportation and distribution systems); Goskomatom (state committee responsible for the country's use of nuclear power).

Major Oil/Gas Fields: Dnieper-Donetsk Basin in eastern Ukraine, Precarpathian Basin in western Ukraine, Crimea, Arkhangelskoye (NW Crimea) Field, and the Sea of Azov

Major Oil Ports: Odesa, Sevastopol, Feodosia, Pivdenny

Oil Export Pipelines Crossing Ukraine: Friendship (Druzhba) (1.2 million bbl/d), Odesa-Brody (construction completed in August 2001; 180,000 bbl/d, rising to 500,000 bbl/d), Eastern Products (30,000 bbl/d)

Major Oil Refineries (1/1/01 crude processing capacity): Kremenchuk (361,000 bbl/d), Lisichansk (320,000 bbl/d), Kherson (236,000 bbl/d), Odesa (78,000 bbl/d), Drogoibich (78,000 bbl/d),

Nadvornaja (74,000 bbl/d)

Foreign Oil and Gas Company Involvement: CanArgo Energy, Carpatsky Petroleum, Epic Energy, EuroGas, Gazprom, JKK, LVR, Momentum Enterprises, Odesa Petroleum

Gas Export Pipelines Crossing Ukraine (Capacity): Northern Lights (0.8 Tcf), Progress (1 Tcf), Shebelinka (0.7 Tcf), Soyuz (1 Tcf), Urengoy (1 Tcf), West Ukraine (0.15 Tcf)

Major Coal Fields: Donets/Donbass Basin, Lviv-Volhynian (West Ukraine) Basin, Dnieper Basin (lignite)

Nuclear Power Plants (Capacity): Zaporozhia (6,000 MW), South Ukraine (3,000 MW), Rivne (1,880 MW), Khmelnytsky (1,000 MW)

Sources for this report include: CIA World Factbook 2000; U.S. Department of Commerce's Business Information Service for the Newly Independent States (BISNIS); Economist Intelligence Unit ViewsWire; U.S. Embassy in Ukraine; Energy Information Administration; Oil and Gas Journal; Petroleum Economist; PlanEcon; Radio Free Europe/Radio Liberty; Reuters; WEFA Eurasia Economic Outlook; press reports.

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[U.S. Department of Energy's Office of Fossil Energy, International section: Ukraine](#)

[U.S. State Department Background Notes on Ukraine \(May 2000\)](#)

[U.S. Department of Commerce's Business Information Service for the Newly Independent States \(BISNIS\): Ukraine](#)

[U.S. Department of Commerce, Country Commercial Guides: Ukraine](#)

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